

III. CLAIM AMENDMENTS

1. (Cancelled)

2. (Currently Amended) A method as claimed in ~~claim 1~~ claim 3, wherein ~~the step of~~ estimating the propagation characteristics is performed by means of ray tracing.

3. (Currently Amended) A method of estimating the operating characteristics of a communication unit in a radio network in which a plurality of such communication units can communicate with a plurality of terminals by means of wireless signals and in which the terminals and the communication units are capable of macro-diversity communication whereby a terminal may simultaneously communicate with a plurality of the communication units, the method comprising:

estimating for the communication unit and neighbouring communication units the propagation characteristics of the wireless signals to and/or from each such communication unit, in a manner specific to that respective communication unit;

determining based on at least the estimated propagation characteristics and the relative locations of the communication unit and the neighbouring communication units a representation of at least one of the macro-diversity gain for the communication unit and the fading margin for the communication unit.

~~A method as claimed in claim 1, wherein the step of determining a representation of at least one of the~~

effective macro-diversity gain for the communication unit and the fading margin for the communication unit ~~comprises~~includes:

estimating a dominance area for the communication unit;

modelling the delay of signals in the dominance area by means of a delay model;

estimating the extent of macrodiversity in the dominance area;

determining the said representation based on the said delay model, the estimated extent of macrodiversity and an estimated speed of a terminal relative to the communication units.

4. (Original) A method as claimed in claim 3, wherein the dominance area is the area in which it is estimated that the communication unit would provide a stronger signal than the other communication units.

5. (Original) A method as claimed in claim 3, wherein the delay model is determined by:

estimating a delay profile for communications from the communication unit to a plurality of locations in the dominance area; and

selecting the delay model from a plurality of predetermined delay models as being the one of those delay models that best represents the delay profiles to the said locations.

6. (Currently Amended) A method as claimed in claim 5, wherein the wireless signals have a chip rate and ~~the step of estimating~~ the delay profile comprises:

determining for each of the said locations a tapped delay model representative of the respective delay profile and the chip rate; and

~~the step of selecting~~ the delay model comprises selecting from the predetermined delay models the one of those delay models that best represents the determined tapped delay models.

7. (Currently Amended) A method as claimed in claim 3, wherein ~~the step of estimating~~ the extent of macrodiversity in the dominance area comprises determining the average number of macrodiversity branches for terminals operating in the dominance area.

8. (Currently Amended) A method as claimed in ~~claim 1~~claim 3, comprising determining based on the macro-diversity gain for the communication unit and/or the fading margin for the communication unit a configuration for the network, and operating the network according to that configuration.

9. (Original) A method as claimed in claim 8, wherein the said configuration includes one or more of a location for the communication unit and an operational parameter of the communication unit.

10. (Original) A method as claimed in claim 9, wherein the operational parameter is a transmission power parameter.

11. (Currently Amended) A method as claimed in ~~claim 1~~claim 3, wherein the radio network is operable according to a CDMA method.

12. (Currently Amended) A method as claimed in ~~claim 1~~claim 3, wherein the terminals are radio telephones.

13. (New) A system of estimating the operating characteristics of a communication unit in a radio network in which a plurality of such communication units can communicate with a plurality of terminals by means of wireless signals and in which the terminals and the communication units are capable of macro-diversity communication whereby a terminal may simultaneously communicate with a plurality of the communication units, the method comprising:

means for estimating for the communication unit and neighbouring communication units the propagation characteristics of the wireless signals to and/or from each such communication unit, in a manner specific to that respective communication unit;

means for determining based on at least the estimated propagation characteristics and the relative locations of the communication unit and the neighbouring communication units a representation of at least one of the macro-diversity gain for the communication unit and the fading margin for the communication unit;

wherein the means for determining a representation of at least one of the effective macro-diversity gain for the communication unit and the fading margin for the communication unit includes:

estimating means for estimating a dominance area for the communication unit;

means for modelling the delay of signals in the dominance area by means of a delay model;

means for estimating the extent of macrodiversity in the dominance area;

means for determining the said representation based on the said delay model, the estimated extent of macrodiversity and an estimated speed of a terminal relative to the communication units..

14. (New) A computer program product comprising program code means encoded on a computer usable medium which when loaded into a computer controls the computer to carry out the method of claim 3.